



ABSTRACT OF THE DISCLOSURE

A SAT estimating portion supplies a grip degree estimating portion with the estimated SAT value. A summing device sums a front wheel slip angle on which high
5 pass filter processing has been performed and a front wheel slip angle on which low
pass filter processing has been performed so as to obtain an integrated slip angle. A
grip degree estimating portion estimates a grip degree of a tire, by calculating a SAT
reference value which is based on the integrated slip angle, and calculating a ratio
between the SAT reference value and the estimated SAT value. A road surface μ
10 value estimating portion estimates a road surface μ value when the grip degree
becomes equal to or lower than a reference value.